Written Testimony of Dr Nicholas Leadbeater, Associate Professor of Chemistry, University of Connecticut & Interim Director of the Chemical Innovations Institute

Before the Connecticut General Assembly Committee on Appropriations, February 20, 2013

Testimony in Support of:

GREEN CHEMISTRY:
ASSESSING POTENTIAL OPPORTUNITIES FOR CONNECTICUT BUSINESSES

Dear Senator Harp, Representative Walker and distinguished members of the Committee on Appropriations,

The development and use of cleaner, greener processes is key to economic growth in the State of Connecticut and is a driver for innovation for Connecticut businesses. To date, the Chemical Innovations Institute (established by the legislature in 2010) has received no funding but has achieved a number of important milestones. Herein we request a modest sum of $85,000 to allow us to build on our success and undertake a study directed towards (a) helping Connecticut business evaluate the potential impacts of chemical policy initiatives in Europe, California and other jurisdictions on their operations, and (b) identifying the priority opportunities for green chemistry innovations that will help the competitive position of Connecticut businesses.

BACKGROUND

The Chemical Innovations Institute at the University of Connecticut was established by Public Act 10-164 in 2010. The mission of the Institute is to: (1) foster green job growth and safer workplaces through encouraging clean technology innovation and utilization of green chemistry, and (2) provide assistance to businesses, state agencies and nonprofit organizations that seek to utilize alternatives to chemicals that are harmful to public health and the environment.

The Institute is required to work with businesses, state agencies, nonprofit organizations, workers, and community groups as a resource for information about chemicals that are of concern to public health and the environment, safe alternatives to these chemicals and emerging state and federal chemical regulations. Statutory requirements include:

- Research and identify chemicals that are important to the state economy
- Provide research and technical assistance regarding chemicals that are of concern to the environment and public health, as well as alternatives to those chemicals
- Coordinate and share information with institutes in other states and the interstate chemicals clearinghouse, as described in section 22a-902 of the general statutes, concerning alternative chemicals and the impact of such alternative chemicals on public health and the environment
- Offer trainings for businesses regarding chemical regulations and such alternative chemicals
- Assist businesses in identifying funding to be used for the implementation of sustainable, chemical-related processes by such businesses.

PROGRESS TO DATE

Despite receiving no funding since its inception, the Institute has made significant progress in laying the critical foundation to propel green chemistry innovations in Connecticut's manufacturing sector and is poised to play a pivotal role in assuring Connecticut's economic growth. Some accomplishments, to date, include:

- Establishing the Board of Directors that meets regularly.
- Developing a strategic plan.
- Developing outreach strategies to assist in defining CT business needs that might be met by the Institute. To this end:

  • The Board is working with UConn to explore opportunities to leverage additional University resources to further the aims of the Institute.

  • Outreach programs are being conducted to build a network of green chemistry practitioners.

  • A green chemistry and engineering workshop was conducted in partnership with the UConn Innovation Connection and United Technologies Research Center, and plans are underway to showcase further green chemistry initiatives and to identify specific ways in which the Institute can provide assistance.

Members of the institute have also completed and published a study in a peer-reviewed journal to identify types and volume of chemicals likely used by Connecticut businesses based on data from Massachusetts (see *Journal of Cleaner Production*, vol. 19, Issue 5; March 2011). Building on this they have linked the data from this model to lists of restricted or banned substances in Europe, California and other jurisdictions.

REQUEST FOR FUNDING

For Connecticut businesses to remain nationally and internationally competitive, it is key that they are proactive when it comes to (a) complying with international and other state regulations restricting the use of toxic chemicals in work processes and (b) shifting to safer alternatives. The Institute requests funding of $85,000 to conduct the next phase of its work to facilitate this. The work will be performed by the Institute partnering with the University of Connecticut, leveraging the expertise found around both the Bioscience Connecticut and the Next Generation Connecticut Initiatives. The objectives of the one-year plan are:

(1) To link potential "high concern" chemicals with existing cleaner, greener alternatives that might apply to Connecticut industries. Particular focus will be on companies in bioscience, aerospace, metal manufacturing and the plastics industry; these being four of the key DECD Connecticut Industry Clusters.

(2) To build on our networks already established by expanding outreach to Connecticut companies with the aim of collecting best practices, identifying barriers to substitution, and determining what resources are missing or would help them facilitate substitution. Involved in this would be a focus on what particular chemicals are causing most issues for Connecticut industry when finding alternatives and the value they would see in developing broader State-wide effort to collaborate on solutions.

(3) To assess current research capacity and programs within the State of Connecticut on the topic of identifying and replacing chemicals of concern and determine how well aligned these are with business needs and priorities.

(4) Make recommendations to the legislature for research capacity to address the identified priority needs for green substitutes and recommendations for Connecticut policies and incentives to speed substitution.

SUMMARY

Chemical policy reform is moving ahead in other jurisdictions. These potential market restrictions are being developed with no consideration of the impact on Connecticut businesses, such as aerospace, metal fabrication, or biosciences. This study will help Connecticut business and legislative leaders better understand the potential threats and opportunities for the State. It will also assess current strengths and weaknesses of academic programs and research capacity in green chemistry and potential barriers to substitution faced by companies. The State is well positioned to use green chemistry innovation to respond to public concerns about chemical safety in a proactive way that will build a healthy economy as well as protect people and the environment. The study outlined here will be a big step forward to this goal.

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